

# Notice of Allowability

Application No.

09/479,262

Examiner

Edward J Wojciechowicz

Applicant(s)

YAMAZAKI, SHUNPEI

Art Unit

2815

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed 5-14-04.
2. ☒ The allowed claim(s) is/are 1-24 and 32-35.
3. ☒ The drawings filed on 05 January 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

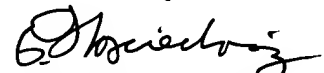
\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 1-5-00, 10-1-01, 4-1
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.



Edward J Wojciechowicz  
Primary Examiner  
Art Unit: 2815

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The amended claims reciting a "crystalline semiconductor film" are vague and indefinite as to the exact structure of this film. Since there are many different forms of crystallinity in semiconductor films (monocrystalline, polycrystalline, microcrystalline, etc.) it is unclear what the inventive structure actually is.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-24 are further rejected, insofar as understood, rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese application 08-254713, of record, for the reasons given in the previous action, hereby incorporated by reference.

The cited reference only appears to exclude single crystalline silicon layers from the described invention whereby boron is included in the silicon nitride oxide gate insulation layer. Consequently, it would appear that other crystalline forms such as polycrystalline or microcrystalline layers are included in the scope of the teaching of the cited reference.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH**

## **REMARKS**

Applicant will address each of the Examiner's objections and rejections in the order in which they appear in the Final Rejection.

### **Claim Rejections - 35 USC §112**

The Examiner rejects Claims 1-24 under 35 USC §112, second paragraph, as being indefinite. In particular, the Examiner objects to the phrase a "crystalline semiconductor film" in the claims.

In order to advance the prosecution of this application, Applicant has amended Claims 1, 13 and 19 to remove the objected to language. Accordingly, it is requested that this rejection now be withdrawn

### **Claim Rejections - 35 USC §102**

The Examiner also rejects Claim s1-24 under 35 U.S.C. 102(b) as being anticipated by Japanese laid open applications 08-254713 (herein "Fukuda"). This rejection is respectfully traversed.

In the Final Rejection, the Examiner appears to be relying on the previous office action for his explanation that the cited reference includes all of the structural features of the claimed invention. Previously, the Examiner stated that "for example, comparing applicant's claim 1 structure with Fig. 1 of Fukuda, there is seen a semiconductor device having a gate (2) formed on an insulating surface (1), a gate insulating film (3a and 3b) formed on the gate electrode, source, drain, and channel region formed on the gate insulator layer, and where the gate insulating film includes a layer of silicon nitride oxide (3a) containing boron" (emphasis added).

Independent Claim 1 of the present application, however, recites that the source region and the drain region are in contact with the gate insulating film, wherein the insulating film includes a layer of silicon nitride oxide containing boron. Independent Claims 13 and 19 have been amended in a similar manner.

In contrast, Fig. 1 of Fukuda clearly shows that the source region and the drain region are NOT in contact with the (gate) insulating film. Hence, Fukuda fails to disclose or suggest the device of independent Claims 1, 13 and 19, or those claims dependent thereon.

With regard to independent Claim 7, this claim recites that the gate insulating film includes a layer of a silicon nitride oxide film containing boron and that the gate insulating film is on the channel formation region. In contrast, Fukuda shows the channel formation region on the gate insulating film. Hence, the claimed invention is different and is not disclosed or suggested by the cited reference.

Therefore, for at least the above-stated reasons, the cited reference fails to disclose or suggest the claimed invention. Accordingly, it is respectfully requested that this rejection be withdrawn.

#### New Claims

Applicant is adding new dependent Claims 32-35 herewith. Please charge our deposit account 50/1039 for any fee due for such claims.

#### IDS

Applicant is included an IDS herewith. It is requested that this IDS be considered before any further action is entered in this application.

Conclusion

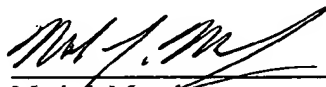
Applicant respectfully submits that the present application is now in a condition for allowance and should be allowed.

Please charge our deposit account 50/1039 for any fee due for this amendment.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

Dated: Apr. 12, 2004

  
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Mark J. Murphy  
Registration No.: 34,225  
COOK, ALEX, McFARRON, MANZO,  
CUMMINGS & MEHLER, LTD.  
200 West Adams Street, Suite 2850  
Chicago, Illinois 60606  
(312) 236-8500